
SMITH & WESSEL ASSOCIATES, INC.

HAZARDOUS BUILDING MATERIALS AND AIR QUALITY SPECIALISTS

February 10, 2012

United States Environmental Protection Agency
Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Attn: Kimberly N. Tisa, PCB Coordinator

Ref: Leominster High School, Leominster, MA, PCBs Remediation Plan

Dear Ms. Tisa:

In response to your letter dated January 23, 2012, on behalf of the Leominster Public Schools, Smith & Wessel Associates (SWA) submits this letter addressing the questions and comments you had pertaining to the revised Work Plan for Removal of PCBs at Leominster High School in Leominster, Massachusetts, dated November 7, 2011. Based on your comments, we've modified and updated the plan – see attached plan dated February 10, 2012.

Your comments and our responses are addressed as follows:

Comments on November 2011 Plan

1. *Page 2. The plan incorrectly indicates that the surface cleanup standard is 10 $\mu\text{g}/100\text{ cm}^2$.*
 - a. *For accessible, indoor surfaces within schools, EPA has generally required a surface cleanup standard of 1 $\mu\text{g}/100\text{ cm}^2$.*
 - b. *This standard would only be applicable to non-porous surfaces or encapsulated porous surfaces.*

We have modified the plan in the latest revision to include the correct standard of 1 $\mu\text{g}/100\text{ cm}^2$.

2. *Pages 3 and 4, Table 1*
 - a. *The laboratory reports for some of the samples appear to be missing, including the following:*
 - *Laboratory reports associated with caulk and/or glazing sample numbers 01A through 08A were not found in the March 2011 submittal nor the November 2011 submittal*

- *Laboratory reports associated with caulk sample numbers 02B, 05B, 06B, and 05C were not found in the March or November 11 submittals.*

We have included these samples in the revised report on the CD. This report includes all analytical results.

- b. The PCB concentrations reported in Table 1 are not consistent with the laboratory reports.*

We have scrutinized the lab reports to ensure all results are consistent. With regards to samples 10A, result is corrected to read 28.1 ppm and 17A, result shows the actual concentration of 4.5 ppm. With regards to samples 20A, 21A, and 22A, we have provided a clarifying comment to the plan indicating that less than one ppm is the correct result based on Contest Analytical's ability to obtain lower detection limits than EMSL Analytical's initial analysis.

- b. Table 1 reported results in the November 2011 submittal appear to be different from previously reported data in the March 2011 plan.*

Any inconsistencies between the March and November plans have been addressed. With regards to sample 16A, as noted above we had reported the corrected result of less than one ppm based on Contest's more accurate analysis than EMSL's original analysis. The updated plan includes a clarifying note to reflect this.

- 3. Page 5, first paragraph. The text indicates that the low volume sample pumps were calibrated to 4.0 liters of air per minute; however, the chain of custody indicates a flow rate of 3.0 liters per minute. Please confirm flow rate for the May 2011 air sampling event.*

The flow rate was 3.0 liters per minute on the May 2011 sampling event. The updated plan has been amended to reflect this.

- 4. Page 6, Table 2B. Based on EPA's review of the laboratory results, the PCB results indicated in this table are incorrect. The reported results need to be adjusted based on the air volume sampled (see laboratory results reported in $\mu\text{g}/\text{m}^3$). The corrected results are as follows:*

- *Sample 1 results should be $47 \text{ ng}/\text{m}^3$, not $44 \text{ ng}/\text{m}^3$*
- *Sample 3 results should be $35 \text{ ng}/\text{m}^3$, not $32 \text{ ng}/\text{m}^3$*
- *Sample 4 results should be $150 \text{ ng}/\text{m}^3$, not $130 \text{ ng}/\text{m}^3$*

We have amended Table 2B in the updated plan to reflect the correct airborne PCB results.

5. *Page 7, 2nd paragraph. While 2 samples from the May 25, 2011 air sampling event were below the detection limit, EPA notes that one of these samples was an ambient air (exterior) sample. Thus, for accuracy, only 1 sample collected from the building interior was below the laboratory detection limit. Please also see previous comment 4 for "corrected" results based on air volume collected.*

We have amended this paragraph in the updated plan to accurately represent the sampling data.

6. *Page 9, Table 4. Laboratory results for the soil sample results in this table indicate that the PCB concentrations are based on a "wet weight" analysis. The PCB regulations at 40 CFR Part 761, Subpart N require the reporting of PCB sample concentrations for non-liquids (e.g., soils) on a dry weight basis.*

In order to convert the "wet weight" to a "dry weight" basis, the % solids for the sample would be required. However, EPA cannot find the % solids for the samples in the laboratory reports.

- a. Please clarify if a % solids analysis for the each soil sample was conducted. If so, please provide the laboratory results.*
- b. If a % solids analysis was not conducted, please clarify how this omission was considered in the soil abatement plan.*

A percent solids analysis for each soil sample had been conducted. Where applicable we've modified the result to reflect the "dry-weight" result. Please note that results for the samples analyzed by Netlabs increased by approximately 15-25% after factoring in the % solids. The "dry-weight" results are included in Table 4 in the updated plan.

7. *Pages 11 and 12 Results of Pilot Tests.*

- a. Please clarify how many coats of the encapsulant were used for each test. EPA generally recommends at least 2 coats.*
- b. Please clarify if the encapsulant was allowed to "cure" prior to the wipe sampling and if so, how was the "cure" time established?*

Two coats of encapsulants were used for each test with a curing period between each coat. The manufacturer's recommendations were followed with respect to cure periods but a minimum of 24 hour waiting period was observed.

8. *Page 12, Section 2.1., 1st bullet. This sentence does not make sense. Please clarify this item.*

This bullet item has been clarified and was meant to relate that the contractor must conduct air monitoring and take corrective action should pre-established action levels be exceeded.

9. *Page 13, Section 2.3. Contractor Qualifications. If the City will be requiring this of bidding contractors, EPA would recommend that these requirements be part of the bid specifications.*

The work plan is being made a part of the bid specifications so these qualifications will be required of the contractor.

10. *Page 14, Section 3.1. Scope of Work (SOW). The first sentence indicates that the SOW will address caulk materials in the 1961 building. According to Page 4, Table 1, PCBs at greater than $\{>\}$ 1 ppm was also identified in black window caulk in the 1990 CTE Building. Will this be addressed as part of the plan? If not, please explain why.*

We are collecting two additional samples of the black window caulk, one in the same location as the original sample and one in an adjacent area to verify the PCBs concentration in this caulk.

11. *Page 14, Section 3.1. paragraph 1. This indicates that non-porous surfaces will be cleaned to a $10 \mu\text{g}/100 \text{ cm}^2$. For schools, EPA generally has required a surface cleanup standard of $1 \mu\text{g}/100 \text{ cm}^2$ for accessible non-porous surfaces for unrestricted use. Please see previous comment 1.a.*

We have modified the plan in the latest revision to include the correct standard of $1 \mu\text{g}/100 \text{ cm}^2$.

12. *Page 20, Section 6.0. Further clarification on disposition of PCB waste is required.*

- a. *Please clarify how each waste stream will be disposed of (RCRA hazardous waste landfill, TSCA-permitted disposal facility, RCRA non-hazardous waste landfill, etc) based on waste type (caulk, soil, etc); waste classification (PCB bulk product waste, PCB remediation waste, decontamination waste); and PCB concentration ($< 50 \text{ ppm}$, $\geq 50 \text{ ppm}$, etc).*

Caulk, fiber board, and any other material slated for disposal (ex. contaminated louver vents) assumed to be contaminated by caulk (with a concentration in the contaminated material above 50 ppm), shall be disposed of as a PCB bulk product waste. Soils, disposable suits, and like materials containing or assumed to contain PCBs greater than 1 ppm but less than 50 ppm shall be disposed of as

PCB remediation waste. We have clarified these disposal requirements in Section 6.0 of the plan.

- b. Last sentence of Section 6.1 indicates that personal protective equipment used by workers shall be "discarded" as a PCB bulk product waste. Please see the disposal requirements for PPE at § 761.61(a)(5)(v)(A).*

Personal protective equipment shall be discarded as PCB remediation waste. We have clarified this requirement under Section 6.0 of the updated work plan.

- c. There is an inconsistency between the November 23, 2011 Response to Comments and November 2011 plan. Specifically, Response to Comment 3 indicates that the fiber board will be disposed of as a PCB remediation waste; however, in the last paragraph on page 1 of the November 2011 plan, it is indicated that porous materials, such as fiber board, will be disposed of as a PCB bulk product waste.*

We have clarified in Section 6.0 of the updated plan that fiber board shall be disposed of as a PCB bulk product waste.

13. Page 21, Section 7.2

- a. Please clarify the encapsulant that will be used for this project. As previously indicated, EPA recommends a minimum of 2 coats of the encapsulant.*

Rustoleum, or equal product, will be used as the encapsulant. A minimum of two coats of encapsulant shall be applied, except within caulk joints, three coats of encapsulant shall be applied.

14. Page 21, Section 7.3 and Page 14, Table 6.

- a. Based on the proposed sampling frequency for encapsulated surfaces, please provide the estimated number of samples that would be collected for each matrix type. It is not clear based on the information provided exactly how much concrete and brick are proposed for encapsulation under the plan.*

We've estimated 17,629 square feet of concrete block and 2,118 square feet of brick will require encapsulation. Thus, at minimum of 18 wipe samples for encapsulated concrete block and 3 samples of encapsulated brick are estimated.

- b. It would be helpful to include in Table 6 (page 14), the type of adjacent substrate that will be encapsulated in each area along with the estimated square footage.*

We have summarized the quantities of materials requiring encapsulation in Table 6 in the updated plan along with the type of adjacent substrate.

- c. No wipe sampling is proposed for decontaminated non-porous surfaces. This must be included in the verification sampling plan. Alternatively, the City may opt to meet the NACE 2 decontamination standard for non-porous surfaces at § 761.79(b)(3)(i) for unrestricted use.*

The updated plan has been amended under Section 7.3 to include wipe sampling of metal columns to remain.

- d. The plan should include post-encapsulation air monitoring to document that the containment activities were effective during abatement activities.*

The updated plan has been amended under Section 7.4 to include requirements for air monitoring in each work zone. Because precise phasing of the work is unknown, we cannot provide the locations and number of air samples to be collected throughout the course of the project.

- e. EPA would also recommend that surface wipe sampling be conducted outside of containment as well as in containment to document that the containment and post-abatement cleaning was effective. The surface wipe standard of $1 \mu\text{g}/100 \text{ cm}^2$ should be used for this determination.*

The updated plan has been amended under Section 7.3 to include requirements for wipe sampling outside of containment to verify that cleaning was effective. Because precise phasing of the work is unknown, we cannot provide the locations and number of these wipe samples to be collected throughout the course of the project.

November 23, 2011 Response To EPA Comments

1. *Response to Comment 4. The City indicates that removal of window caulk containing between 1-50 ppm PCBs will be removed under the plan and that Table 5 contains this information.*

This information is shown in Table 6, not Table 5.

2. *Response to Comment 5. Caulk data associated with 1990 construction shows a PCB*

concentration > 1 ppm. Please see Comment 10 on the November 2011 Plan.

We are conducting additional sampling of this material to verify the PCBs content.
We will update the plan once this data is known.

Should you have any questions or if I can be of any further assistance, please do not hesitate to contact me.

Respectfully submitted,
SMITH & WESSEL ASSOCIATES, INC.

A handwritten signature in black ink, reading "William C. Wessel". The signature is written in a cursive style with a large, stylized "W" and "S".

William C. Wessel
Principal

